

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of growing a p-type nitride semiconductor material by molecular beam epitaxy, the method comprising supplying bis(cyclopentadienyl)magnesium (Cp_2Mg) during the growth process, and carrying out the growth process at a temperature from 920°C to 960°C so that carbon contamination caused by Cp_2Mg is reduced in the semiconductor material.
2. (Previously Presented) A method as claimed in claim 1, wherein the nitride semiconductor material is p-type (Ga,Al)N.
3. (Previously Presented) A method as claimed in claim 1, comprising supplying ammonia gas during the growth process.
4. (Previously Presented) A method as claimed in claim 1, comprising supplying ammonia gas, gallium and Cp_2Mg to a growth chamber, thereby to grow a layer of p-type GaN.
5. (Previously Presented) A method as claimed in claim 1, comprising supplying ammonia gas, aluminum, gallium and Cp_2Mg to a growth chamber, thereby to grow a layer of p-type AlGaIn.
6. (Previously Presented) A method as claimed in 1, comprising changing the supply rate of Cp_2Mg during the growth of the nitride semiconductor material.
- 7-10. (Cancelled)
11. (Previously Presented) A method as claimed in claim 1, wherein the growth process is carried out at a temperature of at least 950°C.

12. (Cancelled)

13. (Previously Presented) A method as claimed in claim 1, comprising supplying Cp_2Mg at a beam equivalent pressure of at least 1×10^{-9} mbar.

14. (Previously Presented) A method as claimed in claim 1, comprising supplying Cp_2Mg at a beam equivalent pressure of at least 3×10^{-9} mbar.

15. (Previously Presented) A method as claimed in claim 1, comprising supplying Cp_2Mg at a beam equivalent pressure of 1×10^{-7} mbar or below.

16. (Previously Presented) A method as claimed in claim 1, comprising supplying Cp_2Mg at a beam equivalent pressure of 1.5×10^{-8} mbar or below.

17. (Previously Presented) A method as claimed in claim 4, comprising supplying elemental gallium at a beam equivalent pressure of at least 1×10^{-8} mbar.

18. (Previously Presented) A method as claimed in claim 4, comprising supplying elemental gallium at a beam equivalent pressure of 1×10^{-5} mbar or below.

19. (Previously Presented) A method as claimed in claim 5, comprising supplying elemental gallium and elemental aluminum at an overall beam equivalent pressure of at least 1×10^{-8} mbar.

20. (Previously Presented) A method as claimed in claim 5, comprising supplying elemental gallium and elemental aluminum at an overall beam equivalent pressure of 1×10^{-5} mbar or below.

21-23. (Canceled)